

I CLAIM:

1. A mathematics education apparatus comprising:
 - a base array comprising a plurality of rows, wherein each row comprises ten receiving positions; and
 - a plurality of number pieces associated with a plurality of corresponding numbers, including at least one number piece corresponding to numbers one through ten, wherein the number pieces have a linear length that is proportional to the number corresponding to that number piece, and wherein the number pieces are configured to cover a quantity of receiving positions on the base array equal to the number corresponding to that number piece.
2. The mathematics education apparatus of Claim 1, wherein the rows are oriented vertically.
3. The mathematics education apparatus of Claim 1, further comprising an instruction apparatus containing instructions for using the array and number pieces to teach mathematical concepts.
4. The mathematics education apparatus of Claim 1, wherein the base array is substantially two-dimensional.
5. The mathematics education apparatus of Claim 1, wherein the number pieces are substantially two-dimensional.
6. The mathematics education apparatus of Claim 1, wherein the receiving positions on the base array are setoff from each other with a visual indicator.
7. The mathematics education apparatus of Claim 1, wherein the number pieces are configured to engage the base array using magnets.
8. The mathematics education apparatus of Claim 1, wherein the number pieces are configured to engage the base array using a removable fastener system.
9. The mathematics education apparatus of Claim 1, wherein the number pieces are configured to engage the base array using a removable fastener system, and wherein use of the removable fastener system creates an audible indicator.
10. The mathematics education apparatus of Claim 1, wherein the plurality of base array rows are the same length.

11. The mathematics education apparatus of Claim 1, wherein the base array further comprises a gap region positioned between each of the plurality of rows.
12. The mathematics education apparatus of Claim 1, wherein the base array comprises ten rows.
13. The mathematics education apparatus of Claim 1, wherein the receiving positions on the base array are labeled with numbers.
14. The mathematics education apparatus of Claim 1, wherein the receiving positions on the base array are labeled with numbers, and wherein the number labels are printed on a labeling apparatus that can be removably attached to the base array.
15. The mathematics education apparatus of Claim 1; further comprising a self-adhesive label configured to be affixed to the base array, wherein the self-adhesive label contains a one or more numerical labels corresponding to at least a portion of the receiving positions.
16. The mathematics education apparatus of Claim 1, wherein the receiving positions on the base array are labeled with numbers and wherein the position labels are disposed within the receiving position.
17. The mathematics education apparatus of Claim 1, wherein the receiving positions on the base array are labeled with numbers and wherein the position labels are disposed adjacent the receiving position.
18. The mathematics education apparatus of Claim 1, wherein the receiving positions on the base array are labeled with numbers and wherein the number labels are painted on the base array.
19. The mathematics education apparatus of Claim 1, wherein the receiving positions on the base array are labeled with numbers and wherein the number labels are incorporated into the base array.
20. The mathematics education apparatus of Claim 1, wherein the receiving positions are arrayed in a plurality of columns.
21. The mathematics education apparatus of Claim 1, wherein the receiving positions are arrayed in a plurality of columns, and wherein each of the base array columns has a numerical label.

22. The mathematics education apparatus of Claim 1, wherein each of the base array rows has a numerical label.

23. The mathematics education apparatus of Claim 1, wherein the receiving positions on the base array comprise recessed portions, and wherein the number pieces include raised portions, such that the raised portions of the number pieces can be received into the recessed portions of the base array.

24. The mathematics education apparatus of Claim 1, wherein the receiving positions on the base array comprise raised portions, and wherein the number pieces include recessed portions, such that the recessed portions of the number pieces can receive the raised portions of the base array.

25. The mathematics education apparatus of Claim 1, wherein:

the receiving positions on the base array comprise recessed portions, and wherein the number pieces include raised portions, such that the raised portions of the number pieces can be received into the recessed portions of the base array; and

the number pieces further comprise recessed portions on a surface opposite the number piece raised portions, such that a plurality of number pieces can be stacked atop each other.

26. The mathematics education apparatus of Claim 1, wherein:

the receiving positions on the base array comprise raised portions, and wherein the number pieces include recessed portions, such that the recessed portions of the number pieces can receive the raised portions of the base array; and

the number pieces further comprise raised portions on a surface opposite the number piece recessed portions, such that a plurality of number pieces can be stacked atop each other.

27. The mathematics education apparatus of Claim 1, wherein the number pieces are colored according to their corresponding number, such that number pieces corresponding to a particular number have substantially the same color.

28. The mathematics education apparatus of Claim 1, wherein images of the number pieces and the base array are computer-generated.

29. A method for teaching mathematical operations on a plurality of numbers using the mathematics education apparatus of Claim 1, the method comprising:

disposing number pieces on the base array, and wherein the number pieces correspond to the numbers on which a mathematical operation is to be performed.

30. The method of Claim 29, wherein the mathematical operation includes at least one of addition, subtraction, multiplication and division.

31. The method of Claim 29, wherein images of the number pieces and the base array are computer-generated, and wherein disposing the number pieces on the base array is performed using software designed to manipulate the images of the number pieces and the base array.

32. A mathematics education kit comprising:

an array comprising a plurality of receiving positions, the receiving positions arranged in an array of rows; and

a plurality of number pieces associated with a plurality of corresponding numbers, wherein the number pieces have a dimension that is proportional to the number of units corresponding to that number piece, and wherein the number pieces are configured to overlay a quantity of receiving positions on the base array equal to the number of units corresponding to that number piece.

33. The mathematics education kit of Claim 32, further comprising a self-adhesive label configured to be affixed to the array, wherein the self-adhesive label contains a one or more numerical labels corresponding to at least a portion of the receiving positions.

34. The mathematics education kit of Claim 32, wherein the plurality of corresponding numbers comprise negative numbers.

35. The mathematics education kit of Claim 32, wherein the plurality of corresponding numbers comprise fractions.

36. The mathematics education kit of Claim 32, wherein the plurality of corresponding numbers comprise decimal numbers.

37. The mathematics education kit of Claim 32, wherein the receiving positions on the base are labeled with numbers and wherein the number labels are incorporated into the array.

38. The mathematics education kit of Claim 32, wherein the receiving positions on the array are labeled with numbers and wherein the number labels are painted on the array.

39. The mathematics education kit of Claim 32, wherein the receiving positions on the array are labeled with numbers, and wherein the number labels are printed on a labeling apparatus that can be removably attached to the array.

40. The mathematics education kit of Claim 32, wherein the receiving positions on the array are setoff from each other with a visual indicator.

41. The mathematics education kit of Claim 32, wherein the array is substantially two-dimensional.

42. The mathematics education kit of Claim 32, wherein the number pieces are substantially two-dimensional.

43. The mathematics education kit of Claim 32, further comprising an instruction apparatus containing instructions for using the array and number pieces to teach mathematical concepts.

44. The mathematics education kit of Claim 32, wherein the array of rows are oriented vertically.

45. The mathematics education kit of Claim 32, wherein the number pieces are configured to engage the array using a removable fastener system.

46. The mathematics education kit of Claim 32, wherein the number pieces are configured to engage the array using a removable fastener system, and wherein use of the removable fastener system creates an audible indicator.

47. The mathematics education kit of Claim 32, wherein the number pieces are configured to engage the array using magnets.

48. The mathematics education kit of Claim 32, wherein the plurality of array rows are the same length.

49. The mathematics education kit of Claim 32, wherein each of the array rows have the same number of receiving positions therein.

50. The mathematics education kit of Claim 32, wherein the array further comprises a gap region positioned between each of the plurality of rows.

51. The mathematics education kit of Claim 32, wherein the receiving positions on the array are labeled with numbers.

52. The mathematics education kit of Claim 32, wherein the receiving positions on the array are labeled with numbers, and wherein the receiving position labels are disposed within the receiving position.

53. The mathematics education kit of Claim 32, wherein the receiving positions on the array are labeled with numbers, and wherein the receiving position labels are disposed adjacent to the receiving position.

54. The mathematics education kit of Claim 32, wherein the receiving positions are arrayed in a plurality of columns, and wherein each of the array columns has a numerical label.

55. The mathematics education kit of Claim 32, wherein each of the array rows has a numerical label.

56. The mathematics education kit of Claim 32, wherein the receiving positions on the array comprise recessed portions, and wherein the number pieces include raised portions, such that the raised portions of the number pieces can be received into the recessed portions of the array.

57. The mathematics education kit of Claim 32, wherein:

the receiving positions on the array comprise recessed portions, and wherein the number pieces include raised portions, such that the raised portions of the number pieces can be received into the recessed portions of the array; and

the number pieces further comprise recessed portions on a surface opposite the number piece raised portions, such that a plurality of number pieces can be stacked atop each other.

58. The mathematics education kit of Claim 32, wherein the receiving positions on the array comprise raised portions, and wherein the number pieces include recessed portions, such that the recessed portions of the number pieces can receive the raised portions of the array.

59. The mathematics education kit of Claim 32, wherein:

the receiving positions on the array comprise raised portions, and wherein the number pieces include recessed portions, such that the recessed portions of the number pieces can receive the raised portions of the array; and

the number pieces further comprise raised portions on a surface opposite the number piece recessed portions, such that a plurality of number pieces can be stacked atop each other.

60. The mathematics education kit of Claim 32, wherein the number pieces are colored according to their corresponding number, such that all number pieces corresponding to a particular number have substantially the same color.

61. The mathematics education kit of Claim 32, wherein the array comprises ten rows.

62. The mathematics education kit of Claim 32, wherein the receiving positions are arrayed in a plurality of columns.

63. The mathematics education kit of Claim 32, wherein images of the number pieces and the base array are computer-generated.

64. A method for teaching mathematical operations on a plurality of numbers using the mathematics education kit of Claim 32, the method comprising:

positioning a plurality of number pieces on the array, wherein the number pieces correspond to the numbers on which the mathematical operation is to be performed.

65. The method of Claim 64, wherein the mathematical operation includes at least one of addition subtraction, multiplication and division.

66. The method of Claim 64, wherein images of the number pieces and the array are computer-generated, and wherein disposing the number pieces on the array is performed using software designed to manipulate the images of the number pieces and the array.